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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,523	11/12/2003	Robert Fu	TRAN-P196	8679

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/712,523	Applicant(s) FU ET AL.	
	Examiner Johannes P. Mondt	Art Unit 3663	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 05 September 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: _____.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

Primary Patent Examiner:
(9/21/07)
Johannes Mondt(TC36/00 AU3663)

Continuation of 11. does NOT place the application in condition for allowance because: With regard to Applicant's request to reconsider the Finality of the Office Action:
On Finality:
Applicant is referred to the substantial Amendment filed 12/04/06 including substantial amendment of the claims after the Non-Final Office Action mailed 8/29/06, on the basis of which the Office Action was made Final, and in which Amendment first and second control inputs were replaced by first and second input for controlling said switch. There is a patentable difference in the present device claims between "control input" and "input for controlling said switch", for the replacement of the structural definition inherent in "control input" and the functional language of "input for controlling" as well as between controlling in general and controlling said switch.
With regard to argument against the objection to the Drawings: the mapping is both incomplete and a posteriori, i.e., incomplete because "output terminal" has not been provided a numeral, and a posteriori because terms such as 'first input', 'second input', "first switched terminal' and "second switched terminal" having been introduced by substantial amendment.
Applicant's arguments in traverse of the rejection under 35 USC 112, second paragraph appear based on a repugnant interpretation of the meaning of "switched", which means, when in the relevant connection to an electrical circuit: the past tense of "to turn on or off", while "switchable" means "capable of being switched"; i.e., the former being a limitation on history, the latter on capability. There is no reason why applicant could not have used "switchable" if that were the intention.
Applicant's first argument (page 8 of Remarks) in traverse of Response to Arguments provided in the previous (Final) Office Action in response to arguments in traverse of the rejections under 35 USC 103(a) therein that "a N-well cannot supply a voltage to a P-type substrate" (1) does not reflect the comment made in "Response to Arguments", which was instead addressing a coupling rather than a voltage, and, (2) does not address the claim language either, in which no voltage is recited; while (3) the assertion is also factually incorrect, because a voltage can be supplied to a P-type substrate by a N-well. That said voltage has a finite range within said P-type substrate and that range depends a/o on its hole density, and that said range may be less than the thickness of said P-type substrate is another matter. Because of the voltage, but also because of the redistribution of charge carriers in said P-type substrate, coupling is ensured, which is the pertinent issue, considering the claim language.
Applicant's traverse that heavily doped p+ well 320 is of substantially different doping than substrate 300 (page 8 of Remarks) is not persuasive because P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
Applicant's arguments on the significance of physical and electrical isolation of element 320 and the lower portion of the substrate do not correspond to any claim limitation, and hence also fail to persuade.
Applicant's argument (page 8) that an interpretation of 320 as being part of the substrate is incompatible with the teachings of Lai is un-substantiated and is not persuasive in light of the aforementioned broadest interpretation.
Applicant's argument (page 8) that the same is inconsistent with the use of such terms (sic: which terms?) by those of ordinary skill in the art fails to convince because 320 and 300 have both the same substrate function at least with regard to element 350 while being of the same type of conductivity.
Applicant further alleges (page 8) that Lai teaches coupling 372 to 374 when the switch is "on", however, no specific reference is provided, and no such specific teaching appears to be present in Lai.
Furthermore, even arguendo, the coupling taught by Mergens et al is used for protection only (see rejection, page 5 in the Final Office Action and references therein to Mergens et al) and hence inherently is only operative in and motivated by exceptional circumstances (overload) (see their claims 8, 13, 15 and 16, their title and abstract) when differences of potentials exceed set limits. Therefore, Applicant's allegation of the combination being inoperative (pages 8-9) is not persuasive.
Applicant's traverse of the substrate bias is again based on applicant's interpretation of the P+ portion of the wafer not being part of the substrate, as already discussed overhead.
Applicant separately discusses the actual rejection (pages 10-24) under 35 USC 103(a) as follows:
Applicant's traverse that the modification is "very unclear" is not understood: a simple coupling to a ground potential is all that is needed for said modification. That such coupling only becomes operative for ESD protection does not render the modification inoperative during normal use. Therefore, Applicant's first argument (pages 10-11) is not persuasive.
Applicant's statement alleging no motivation (page 12) is sharply contradicted by the general acceptance of the desirability of ESD protection for any semiconductor device as known by those of ordinary skill in the art, which also is the motivation of the ESD protection structure by Mergens et al.
Applicant's comment on "impermissible hindsight" (pages 12-13) is solely predicated on the notion that when the primary reference already provides one ESD protection feature any additional ESD protection cannot possibly be motivated. This argument is not persuasive because additional safety features are motivated by additional safety.
Applicant's traverse that terminal 372 is not coupled to the substrate (page 13) is not persuasive because P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
Applicant's traverse on an alleged failure to teach the limitations "for controlling said switch" (pages 14-15 for first input and pages 16-17 for second input) is not persuasive because said limitation is one of intended use. Note that functional language in a device claim is directed to the device per se, no matter which of the device's functions is referred to in the claim, from which it is clear that it is the patentability of the device per se which must be determined in a "functional language" claim and not the patentability of the function, and that an old or obvious device alleged to perform a new function is not patentable as a device, whether claimed in "functional language" terms or not. In such cases applicant has the burden of showing that a prior art device that appears reasonably capable of performing the

allegedly novel function is in fact incapable of doing so. See MPEP § 2114.
Applicant's traverse (pages 17-19) alleging an absence in Lai et al of a teaching of a coupling to the substrate is not persuasive because P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
The specific traverse of the rejection of claim 2 (page 20) is not persuasive because P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
The specific traverse of the rejection of claim 3 (page 20) is not persuasive because P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
The specific traverse of the rejection of claim 4 (pages 20-21) fails to persuade and is even non-responsive: a specific reference and numeral (350, col. 4, line 28) had been provided, but applicant responds only with a blanket statement, not a traverse on the specifics. Furthermore, P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
The specific traverse of the rejection of claim 5 (pages 21-22) fails to persuade and is even non-responsive: a specific reference and numeral (350, col. 4, line 28) had been provided, but applicant responds only with a blanket statement, not a traverse on the specifics. Furthermore, P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
The specific traverse of the rejection of claim 6 (page 22) fails to persuade: P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
The specific traverse of the rejection of claim 7 (pages 22-23) fails to persuade: P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
The specific traverse of the rejection of claim 8 (page 23-24) fails to persuade: P-type substrate for element 350 is a substrate of P-type, and has been defined through its conductivity type, while the conductivity type of the lower portion of the P-type substrate and of 320 is identical: only the concentration of impurities is indicated to be higher. Applicant's argument of different doping (of 320 and the substrate) is not persuasive because the doping in both cases is p-type (i.e., acceptors). Therefore, P-type substrate", according to its broadest interpretation, - to which examiner is bound, comprises element 320.
With regard to the alternative rejection only one specific ground for traverse is provided in Remarks in addition to the statement that the swap of 372 and 374 alters little, namely: the aforementioned allegation of failure to teach coupling to substrate which has been answered to overleaf.
In light of the above considerations the finality of the previous office action mailed 6/29/07 and the rejections therein stand.